Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: Chris Walling

GENERAL INFORMATION:

Name:	Louisville Gas and Electric Company, Magnolia Station
Address:	P.O. Box 32010 Louisville, KY 40232
Date application received:	5/19/2008
SIC Code/SIC description:	4923, Natural Gas Transmission and Distribution (distribution)
Source ID:	21-123-00012
Agency Interest:	38839
Activity:	APE 20080001
Permit:	V-08-021

APPLICATION TYPE/PERMIT ACTIVITY:

[ ] Initial issuance	[ ] General permit
[ ] Permit modification	[ ] Conditional major
__Administrative	[X] Title V
__Minor	[ ] Synthetic minor
__Significant	[ ] Operating
[X] Permit renewal	[ ] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance [ ] Compliance schedule included

[X] Compliance certification signed

APPLICABLE REQUIREMENTS LIST:

[ ] NSR	[ ] NSPS	[X] SIP
[ ] PSD	[ ] NESHAPS	[ ] Other
[ ] Netted out of PSD/NSR	[ ] Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

[ ] Acid rain source
[ ] Source subject to 112(r)
[ ] Source applied for federally enforceable emissions cap
[ ] Source provided terms for alternative operating scenarios
[ ] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[ ] Certified by responsible official
[ ] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Potential (tpy)
PM/PM_{10}	2.10	8.42
SO_2	171.93	687.70
NOx	102.03	408.13
CO	36.33	145.32
VOC	9.20	36.79
Total HAPs:	6.56	26.22
Single HAPs:		
Formaldehyde	3.74	14.96
Benzene	0.27	1.08
H2S	3.73	14.90

SOURCE DESCRIPTION:

On June 10, 2008, Louisville Gas and Electric submitted a Title V (TV) renewal application to the Division for their existing natural gas compression, storage, processing and distribution facility in Magnolia, Kentucky. The pipeline-quality natural gas is stored in geological formations underground and then pumped out to be re-distributed during peak demand in winter months. Underground storage causes hydrogen sulfide (H2S) contamination due to bacterial action. Hence, H2S is removed with an amine sweetening process prior to re-distribution. There is an ethylene glycol dehydration unit and boilers to support both the sweetening and the dehydration processes. In addition, the source has six natural-gas fired compressor engines to compress the gas back into the distribution networks. The 10 MMBtu/hr, 8.4 MMBtu/hr and 1.0 MMBtu/hr units which were subject to applicable standards but were previously permitted as insignificant units under Section C have been moved to Section B of the permit.

The source is permitted for continuous operation, 8760 hours per year, although the facility historically only operates approximately one fourth of every year, the winter months. Currently, there are four emissions units, two control measures (an afterburner for the sweetening process and a BTEX flare for the de-watering process). The afterburner on the natural gas purification plants, converts H2S to sulfur dioxide (SO_2) at an efficiency rate of 98%. Formaldehyde emissions are generated from the natural gas compressor units, however SCREEN3 analysis performed by the Division indicates that there will be no adverse effects and they satisfy the requirements of 401 KAR 63:020. The source is not subject to the new source performance standards (NSPS) or the Maximum Achievable Control Technology (MACT) due to the dates of installation and operation. Emissions factors are taken from AP-42 and a mass balance performed by the source.